

ITEMS OF INTEREST.

VOL. IX.

PHILADELPHIA, OCTOBER, 1887.

No. 10.

Notes from the Profession.

SOUTHERN DENTAL ASSOCIATION.

REPORTED BY "MRS. M. W. J."

The Southern Dental Association convened in Nineteenth Annual Session, at Old Point Comfort, Va.

Ample accommodations had been secured in the Hygeia Hotel for sessions, clinics, dental displays, social enjoyment, surf bathing and numerous excursions. It was unanimously admitted to have been one of the most successful and enjoyable meetings ever held, as well as the most numerously attended. The Southern Association itself was largely represented, and there were also present many visiting dentists from the North, the East and the West, and from abroad. Geographical distinctions were obliterated and to all, excepting the vote, were tendered every privilege of membership, as the courtesies due to honored guests and welcome friends.

The venerable President, Dr. W. W. H. Thackston, of Farmville, Va., the only survivor of the second class of the Baltimore College of Dental Surgery, and thus the holder of the oldest dental diploma in the world, presided with all the dignity and suave courtesy of the old Virginia gentleman.

The opening session was called to order at 10 A. M., August 30th, and opened with prayer by the Rev. O. E. Herrick.

Dr. J. H. Prewitt, of Kentucky, delivered the address of welcome, and Dr. V. E. Turner, of North Carolina, the response; after which the President delivered his

ANNUAL ADDRESS,

which was eloquent, pathetic and witty, as well as grave and scientific.

The afternoon session was occupied with remarks from Prof. J. Taft, President of the dental section of the International Medical Congress, tendering an invitation to all qualified dentists to attend and participate in the proceedings of the section.

Dr. W. H. Morgan, of Nashville, Tenn., also spoke, followed by the introduction of Dr. Geo. H. Torney, U. S. Army Surgeon, of Fortress Monroe, to whom the Association were indebted for a corps of soldiers as subjects for the clinics.

The welcome tendered to foreign guests was responded to by Dr. T. E. Sjolberg, of Stockholm, Sweden.

Prof. J. B. Hodgkin, of the Baltimore Dental College, then offered a motion calling for a committee to draft resolutions expressing the sense of loss sustained by the Association in the death of Dr. J. R. Walker, of New Orleans.

The Committee was appointed with Prof. Hodgkin, chairman.

The Committee of Scientific Work not being ready with their reports of papers, the meeting adjourned to 10 A. M. Wednesday, when the opening paper was read by A. E. Baldwin, M. D., D. D. S., of Chicago. This was prepared for the Association by special invitation. It was entitled

IMMEDIATE ROOT FILLING.

He had often been struck by the difference between the statements of operators who had just performed beautiful, interesting and "successful" operations in pulp capping, and the remarks of the patients when subsequently having abscesses treated; so of roots filled, in which the nerves had been "saved" by capping! He believed that in near pulp exposure—not merely acute pulpitis and a carious spot—the better plan is to devitalize, remove the pulp, cleanse and dry and immediately fill the roots, giving the patient something which would be serviceable, and would not give trouble. Believing the usefulness of the pulp had mainly been accomplished when the tooth was fully developed, he would use greater endeavors to save the pulp alive in a child than in an adult. If the cause of trouble lies in the condition of the pulp-chamber, root canal, or abscess, the cause is removed by the above procedure; but if the root is necrosed, treatment through the root canals will be unavailing. He would procure free access to the pulp chamber and root canals, and cleanse thoroughly, removing all fluid and solid contents as far as can be done by the most painstaking efforts; then wiping out with a 95 per cent solution of carbolic acid, followed by alcohol, because of its affinity for the water in interdental spaces. Then follows the part of the treatment on which he mainly relies; thoroughly drying the canals and dentinal tubules with hot air; sometimes spending ten or fifteen minutes in this process, never attempting to fill till he is sure the canals and remaining contents are thoroughly dried. For a filling material that shall be non-irritating, insoluble in the fluids of the mouth, easily introduced and that will not deteriorate, hermetically sealing the dry canals and tubuli, he selects base-plate gutta-percha

dissolved in chloroform to about the thickness of cream, pumped in by means of a fine broach made of piano wire roughened by rolling on a hard wood base under a fine metal file. This broach is wound with a few fine shreds of cotton and dipt in the solution; when he thinks the roots well filled, he lets them remain for a short time undisturbed, after which he heats a small piece of base-plate gutta-percha and placing it over the opening of the root canal, with fine pointed instruments he bores the contents to the uttermost limits of the canals and even into the open tubules. He thinks failure in root fillings is caused by moisture causing the solution to shrink *from* the walls in hardening, while if the canals are thoroughly dry, the shrinkage will be *to* the walls, the gutta-percha adhering with the greatest tenacity to contiguous dry surfaces. The patient should be warned that trouble may possibly ensue. If it does, he dries the gum over the affected part, and applies equal parts of tinc. iodine and tinc. aconite root, which usually averts further trouble.

With freshly devitalized pulps, he waits a week or ten days before removing the dead tissue, giving it time to slough from the living tissues, giving less pain to the patient than by earlier removals. If there is continued moisture through the open foramen, he seals in a shred of cotton saturated with a 95 per cent carbolic acid for a day or two; this never having failed but once. Teeth having abscess with fistulous openings are immediately filled; blind abscess is opened, and the patient dismissed for a day or two till the soreness subsides.

He thinks the importance of micro-organisms has been greatly exaggerated. That pus can be produced without the presence of germs, and cites as proof the pus of a felon, and of acute synotitis of the knee joint. He also takes exception to the multitude of remedies recommended at the rate of dozens of new ones every year. When carefully studied, a few meet all requirements.

Dr. Marshall, of Little Rock, Ark., read a paper on

CONSERVATISM IN FILLING MATERIALS.

A lengthy discussion followed the reading of these two papers, taking in the whole range of operative dentistry. Drs. Storey, of Dallas, Texas; Winchler and Catching, Atlanta, Ga; Kells, Jr., and J. Rollo Knapp, New Orleans; Eubank, Birmingham, Ala.; Moore, Columbia, S. C.; Richards, Knoxville, Tenn.; Sjolberg, Stockholm, Sweden; McKellops, St. Louis; Beach, Clarksville, Tenn.; G. F. Evans, N. Y.; Stockton, N. J.; Allport, Chicago; Freeman and Morgan, Nashville, Tenn.; and others took part in the discussion. Chloro-percha, oxychloride of zinc, lead, wood and gutta-percha points, rolled gold and gold wire, all had their advocates as being *the best* materials for root filling. "Immediate root filling" found its zealous

advocates and its earnest opponents. It was generally admitted that an existing abscess, or one forming subsequently, could be as well treated from the outside as through the root canals, nothing being gained by keeping the tooth open for this purpose. A blind abscess could be brought to the surface by puncture and treated in the same way.

The question was asked why a 95 per cent solution carbolic acid was used instead of pure carbolic acid? the reply being that pure carbolic acid existed only in the form of crystals, the waters of deliquescence being 95 per cent solution referred to. Driving out a freshly exposed pulp by a carbolized wood peg was largely advocated, specially by Drs. Winckler, Kells, Beach and Stockton, as being comparatively painless to the patient when skilfully done, and as saving much time to both patient and operator; no *treatment* being necessary beyond thorough cleaning and drying.

Dr. W. H. Richards, Knoxville, used arsenical paste, removing the pulp four hours after making the application, which at that time causes congestion and anesthesia of the pulp, allowing of almost painless removal, while at a later period the inflamed condition of the pulp causes severe suffering. He applies a paste of 95 per cent carbolic acid and iodoform for twenty-four hours after removal of contents of root canals.

In opening into an old dead pulp, Dr. Winckler treats with perox. hydrogen, and waits one day before filling. If a pulp has been treated with arsenic he waits longer still. There was little liability of trouble from the contents of root canals that were too small to be entered by a nerve bristle; a paste of iodine and creosote can be applied.

Dr. Morgan (Nashville) drills root canals, with the view of cutting out both dentinal tubuli and contents, thus preventing decomposition and discoloration being sceptical as to the possibility of dessication. Others thought if this were done to a sufficient extent to accomplish the object, it would leave too thin a shell of cement. Dr. Sjolberg gave the method of pulp amputation practiced in Europe in difficult roots; arsenical paste is applied for twenty-four hours, when the coronal portion of the bulb is amputated with a sharp clean bur dipt in carbolic acid. Bleeding is checked, and a ball of carbolic acid and oxychloride of zinc paste applied over the openings into the root canals. This is covered with a platina cap, and the crown cavity filled with cement, and the masticating surface with amalgam, or gold, as desired. This is used when canals are difficult of access, and is successful. Dr. McKellops thought highly of the gold broaches introduced by Dr. Herbst last year. The practice of capping pulps had few advocates, except in children's teeth, when the pulp function is

essential to continued development. The method of thorough drying, even to the desiccation of the contents of the tubuli, is accomplished either by long-continued application of hot air through the syringe, or by heated instruments. Dr. Allport uses an instrument having a large bulb, to which is attached a broach. The bulb is thoroughly heated, and the heat conveyed to all parts of the cavity and canals, till, to use the words of Dr. Allport, it "sizzles," and the fluid contents are boiled out and evaporated. When the contents of the tubuli is thus desiccated, no danger is to be apprehended; but if gutta-percha is used for root-filling, the shrinkage, if any, will be toward the dry walls, to which it will adhere tenaciously, but from damp walls it would shrink away as the chloroform dries.

(To be continued.)

BLOOD POISONING.

(A Paper read before the Lebanon, O., Medical Society.)

BY EDWARD B. STEVENS, M. D.

In a report that I wish to make to the society of some cases which have come under my observation, one of them a recent and fatal one, I use the expression "blood poisoning" advisedly as being more general in its significance, and for this and other reasons better adapted to my purpose than the more precise terms septicemia, pyemia, or other words of definite accepted meaning.

I premise what I have to say by reminding medical gentlemen of the often remarked and remarkable differences in the immunity and the susceptibility of individuals to serious effects from trivial accidents. For example, some months ago a butcher residing in this village was at work in his slaughter house in his bare feet; for some reason he suddenly stepped down a distance of a foot or more into what he supposed was simply mud; there proved to be a plank under the mud, pierced with a tenpenny nail, on which he landed with his entire weight, the nail passing entirely through the foot, the foot being withdrawn from the nail by main force. The wound produced no unpleasant effects in any respect.

On the other hand, a gentleman in the vicinity of Cincinnati last autumn stepped on a small nail slightly projecting from a board; his foot was protected by sock and slipper, so that the wound between his toes was slight indeed. There was trifling soreness for two or three days, at which time the first symptoms of tetanus were manifest, when I was sent for to be associated with an intelligent physician who was family physician in charge. But little impression was made on the tetanic condition, and the gentleman died about the eighth day after the accident.

All of which seems to have a direct bearing on the vague and uncertain circumstances which develop a condition of blood poisoning. This is well expressed by Bryant in his excellent work on surgery. He says, speaking of blood poisoning: "As to the exciting cause of the disease nothing is known. It attacks the healthy as well as the cachetic; those surrounded by perfect hygienic influences as well as those subjected to the most unfavorable, and it is found in private as well as public practice."

On the evening of Saturday, February 19th, last, a young lady, clerk in a dry goods store here, slightly pricked the ball of her thumb with a needle. It gave her no uneasiness or pain at the time, but twenty-four hours afterward pain and inflammation set in, for which I was consulted at my office the next day; but I did not see the patient till one week after the original trivial injury. At this time I found her suffering pain of the most excruciating character; the hand and arm to the elbow greatly swollen and inflamed; a broad, angry, purplish-red stripe running from the hand up the inner face of the arm nearly to the shoulder; no other constitutional manifestations; no delirium at any time. Large doses of opiates produced but little appreciable relief. Several days after my visit, that is, about ten days after the needle prick, a large blister appeared on the inside of the thumb—not an abscess proper—from which was discharged several table-spoonfuls of fluid, mostly serous, but partly purulent; the discharge rapidly changed to a more decidedly purulent character, and continued from the surface of the tissues. Soon death and sloughing of the muscles commenced and continued to progress till the most of the muscular tissues beneath and in front of the thumb had disappeared, leaving a cavity into which might be placed a moderate sized man's thumb. This cavity gradually filled with a deposit of new muscle, and the resulting deformity is slight, there being at the present some stiffness of the thumb and first finger.

I might also remark that the severe pain almost entirely ceased with the beginning of the purulent formation and discharge.

Dr. Henderson, of Oregonia, in this county, relates to me a similar case, in which his own father was the patient. The palmar surface of his hand was slightly scratched with the sharp edge of a chisel. A like train of symptoms was speedily established as in the case I have just related—additionally there was delirium for some time; finally, as in my case, there was suppuration, with gangrenous sloughing of all the muscular tissues of the palmar surface of the hand, resulting eventually in entire recovery.

On the 6th of this month (May, 1887), Mr. Monfort, of Lebanon, occupation teamster, age 26, general health supposed to be good, was

whittling and by accident the penknife slipped from his hand and the point of the blade striking the outside of the calf, a penetrating wound was made to the depth of half an inch. Shortly after he reported to my office, but finding he had closed the wound with a plaster and bandage, I directed him to go home, abstain from work for a few days and keep quiet.

On the 9th I was called to see him. He had obeyed my injunction so far as to go to plowing and continued till noon of this first day's visit, when from pain he was compelled to desist. I found him suffering severe headache and great pain in the leg, which was already swollen and assuming an erysipelatous blush. The swelling rapidly increased, with continued pain, swelling extending up the limb above the knee, a dark red stripe running up the inside of the leg to the body. Delirious from about the fifth day after the accident, but not violent till death; his attention being excited, the mental condition was apparently rational, but readily lapsing into delirium; the pulse, however, remained at 80 till two days before death; appetite capricious, at times quite good, then for a day the patient scarcely taking any food.

About the 17th I found an abscess had formed at a point nearly opposite the original wound, from which several ounces of fluid, partly purulent but serous, was discharged. Shortly after pus began to discharge from the wound in abundance and continued. At the time I opened the abscess there were two or three dark spots like slight bruises on the surface of the calf; within twenty-four hours these spread so as to make a continuous black surface, which my entire hand would just about cover. This gangrenous surface did not extend, but exhibited the disposition to a line of separation, and at the time of death the sloughing process had just commenced.

From May 20th approaching dissolution rapidly progressed—driving horses, going to the river and canal, picking at the bed-clothes, pulse rapid and irregular, difficulty in swallowing, largely as if he got material in his mouth, whether fluid or solid, and did not know what to do with it. He died on the 23d, the eighteenth day after the wound.

After the death of Monfort I learned that he was engaged a good deal of the time during the winter and spring in hauling off hogs dead from cholera. It is probable that the continual inhalation of the exhalations of cholera hogs would so infect the system as to be ready by a slight accident or wound to invite an invasion of this sort.

At any rate, there is but little to comfort one, in the history of cases of this sort, within our own experience or the information obtained from authority. Bryant, already quoted, says: "It seems reasonable to believe that a patient may die in two or three days after the first appearance of the symptoms, and as a rule bad cases terminate during the second week."

FATAL HEMORRHAGE FROM THE EXTRACTION OF TEETH.

Reported by C. EDMUNDS KELLS, JR., D. D. S., New Orleans.

The morning papers of May 1st announced, briefly, the death of Mr. Murray from hemorrhage resulting from the extraction of fourteen teeth. This paragraph attracting our attention, the following facts were learned :

At about 11:20 A. M. the patient presented himself, accompanied by his wife, for the purpose of having all (twenty or more) of his teeth extracted. An examination showed teeth and roots loose and gums inflamed. He had been suffering greatly from neuralgia and wished cocaine used to offset the pain of extraction. Nothing unusual being observed about the man, and as he had eaten nothing since early morning, a "test dose" of $7\frac{1}{2}$ minims of a 4 per cent solution muriate of cocaine was injected into the gums. At expiration of seven minutes ten minims of the same solution were injected. This was followed at once by local applications of a perhaps 50 per cent solution of the same drug to the gums. At the end of twenty minutes extraction of the teeth was begun. At once we noticed spasmodic contractions of the muscles of the body and face, which became so violent as to render the application of the forceps to the teeth difficult. After several were removed, the patient suggested that one of the workmen in his shop (close at hand) be sent for to hold him still. This was done, but with no result, as all hands were away, having gone to dinner. Therefore, extraction was continued till ten teeth and four roots had been removed, all anterior to the molars. This being accomplished without pain, patient desired operation continued till all were removed, but he was finally persuaded that enough had been done to afford him relief. His restlessness continuing, an injection of fifteen minims of camphor water was given, which seemed to quiet him; amyl nitrate was also inhaled. Hemorrhage having ceased, a toddy was administered and patient discharged at about 1 o'clock.

About an hour later, Mr. Murray sent word to the dentist that he still had another aching tooth, which he desired to have out, but this request was refused on the ground that he had had enough "excitement" for one day.

At 3:30 the dentist was sent for to call and stop a hemorrhage, which he immediately proceeded to do. Finding his patient excitedly talking and walking up and down his rooms, and spitting blood in *very large* quantities, fifteen minims of camphor solution were injected in his gums and an attempt to plug the bleeding sockets was made, but failed, as he would not sit down and would suck out a pledget as fast as it was packed into a socket. At 4 o'clock his physician arrived, when plugging of sockets was again unsuccessfully attempted. The

doctor suggested that a straight jacket be sent for that he might be controlled, but this was objected to by the family. A mouth-wash of hot solution of iron and alum was tried without effect. An ice cold solution of same was used, which seemed to check the bleeding somewhat. In the meantime, attempts to inject about one-eighth or three-sixteenths grain morphine were made, but only with partial success, owing to his constant movements. At last he became quiet and laid down on the sofa. The doctor then left, after giving instructions to repeat the dose of morphine after the lapse of twenty minutes, if he again returned to his violent condition. In a short time his restlessness returned and the appointed time having expired, one-fourth of a grain of morphine was successfully injected, after which he quieted, immediately becoming very pale, though his pulse felt "full and strong." At 7 o'clock, as he was quietly lying on the sofa, without any further examination; he was left in charge of his family. A few minutes later his physician returned and found his patient breathing once per minute. Active measures to restore normal respiration were resorted to immediately, and once, while under the influence of an electric current, it was raised to thirteen per minute, but all efforts proved futile, and it soon began to fall again, finally ceasing entirely at about 1 o'clock A. M.

FILING TEETH.

DR. I. B. DAVENPORT, PARIS, IN N. Y. ODONTOLOGICAL SOCIETY.

What may be said of the tendency of the teeth to change their places, after the breaking of the arch by extractions, may equally apply where spaces have been made by the use of the file; but for several reasons this last plan of securing *temporary* spaces is more disastrous in its results than is that of certain extractions.

Some of the immediate consequences of filing are bad enough to condemn the practice, such as the diminishing of the grinding surfaces, lessening the force of mastication by the removal of lateral support, and permitting an unnatural strain on the sockets of adjoining teeth; but more evident and annoying is the pain caused by the exposure of the terminal dentinal fibrils, and by the crowding of food into the spaces and against the gums.

A single filed space in a well-articulated arch is likely to remain through life.

At first such a space is cleansed without difficulty, but constant crowding against the gums causes their recession, and a little pocket is thus formed, in which food is apt always to remain, though it may be called a "self-cleansing space," and sooner or later new decay begins at that point, and is most painful and difficult to treat. Restoration

of contour at this stage is not easy, yet patients gladly submit to it that they may be rid of an unnecessary nuisance.

When many filed spaces have been made in the arch the teeth move up till they are again in contact, just as they do after extractions, unless prevented by a faulty articulation.

The new contact, instead of occupying the smallest extent of the convexity of the thickest and most perfect portion of the enamel, with the space at the gum washed by the fluids of the mouth, is at or near the gum, where the enamel is thinnest, or perhaps has been filed away, leaving the dentine exposed.

Any plan of filing the teeth that changes the contact from the normal point will diminish the size of the arch, because each tooth occupies such a proportion of the arch that the natural points of contact are on a line passing through the greatest diameter that the teeth can possibly furnish without injuring the articulation.

The system of filing the teeth pre-supposes that the spaces will be self-cleansing, and therefore the dentist is apt not to instruct the patient either in the need or in the special ways of securing their perfect cleanliness. In the long run filed teeth require more care on the part of the patient to preserve them than do teeth in normal contact. Food is sure to wedge between them, and is often dislodged with difficulty. The filed surfaces are less capable of resisting corrosive agents, and failure to secure cleanliness soon results in decay.

Caries is likely to appear and re-appear at the gum-margin of the fillings, each time lower than the last. If a point of contact had been secured at or near the gum-line, it is lost by the undermining decay, and the teeth move up and transfer the point of contact perhaps far below the gum, and this in turn is destroyed by new decay.

After repeated slicing with the file for the renewal of fillings, it becomes impossible to secure adequate anchorages without endangering the pulp; or the pulp may be exposed by decay at the thin sensitive neck, and at last must be destroyed. Weakened by decay, by filing, and the cutting away necessary for root-treatment, and robbed of their support, the teeth break down under the ever-increasing strain brought on them. Extraction affords about the first relief to such patients, and artificial dentures are a boon to those who have been compelled for years to painfully hobble through their meals without even a crutch to relieve the irritated gums and the mutilated sensitive stumps of teeth.

Some pretend that the results described above are only true when separations have been made solely for the convenience of the operator; but if that is true it speaks badly for the honesty and ability of the mass of those who have been or are practicing this method. As for

the large proportion of cases I have seen, the above statement would be applicable,—the degree varying only as regards the time that has elapsed since the filing was done. I therefore prefer to believe the fault to be in the method.

I have seen cases of filing done by men of great skill and ability; men well versed in the supposed foundations of the system; who have striven earnestly and long, and *saved* the teeth, yet I should consider their results as failures. The teeth were saved, but their usefulness was destroyed.

Teeth unable to properly masticate the food, better be substituted or supplemented by a well-constructed appliance. The millennium is not hastened by dinners goaded on by tooth-picks and fluids to an overworked stomach. When the medical profession learns more of the causes of dyspepsia in America, an uncomfortable fact may be laid at the door of the dental practitioners.

After a time teeth extensively filed cease their wandering and assume a fixed position, and then *tight contact between the teeth will be the rule*; but here and there a permanent space may be left, and that without any apparent reason, unless both arches are looked at as a whole when in articulation; but when so considered they will be found to form one unbroken line of teeth, contact being secured sometimes on the lower and sometimes on the upper arch, but always made continuous by the articulation.

While it is not usually advisable to attempt to restore the contour of all the teeth mutilated by filing, it often occurs that here and there restorations may be practiced with great benefit to the patient, relieving excessive gum-pressure or a sensitive tooth-neck.

I have been begged to do this when the patient knew that it involved destruction of the pulp, and root-filing; and this, too, in one case that has been published as showing the typical advantages of free and self-cleansing spaces.

Filing of the upper incisors, in such a way as to leave a slight point of contact near the cutting edge, has been a successful plan of treatment in some cases.

Those who still believe in the advantage of open spaces between the teeth of *their patients* may find one crumb of comfort from these studies, in the fact that if the filing is limited to the teeth of one jaw their steadfastness will be secured by the articulating teeth, and the spaces *will* remain; or they may, by skipping here and there about the mouth, make a few spaces which may be retained by the apposing teeth; but any other plan of filing will cause disappointment, for their dreaded contact will assuredly recur.

In conclusion, I would earnestly suggest that one who is about to enter on this method of practice should first receive instruction from the most scientific filer of teeth, and that he have made in his own mouth just one so-called "self-cleansing space," and after six months carefully observe whether he is masticating his food on the side left in nature's form or on the one improved by the art of man.—*Cosmos*.

Bones Alive.—Gentlemen, do you realize that, when teeth are extracted, not only will the jaws by and by change their configuration, but even the countenance and expression of the face will change? If a Philadelphia dentist is able by looking at a man's face on the street to tell that the unfortunate being had been maltreated some years before in the extraction of certain teeth, it proves that the bone is a living tissue. It is only a comparatively short time—fifteen or sixteen years—since it has been maintained that the bones all through were living structures. In former years it was believed that the bones were composed of calcareous substance merely, glue-yielding substance,—with cavities that carry liquids or gaseous material. Afterward it was proved that those cavities contained protoplasm. In 1873 I was the first to prove that not only the bone-corpuscles, but the whole basis-substance, was alive all through, so long as the bone as a whole is alive. The cause of the many changes in bone-tissue which lead to the disfigurement of the jaws and the facial bones in general should be found out. There can be no question but that where there is action there is reaction, and where action is lacking reaction will be lacking. The bones are made of rods or pillars, and if a pillar is out of action, if no pressure is exerted on it, it will atrophy. There is a change going on which leads to absorption, but not directly from the hard tissue called bone. This tissue must first fall back to the soft, elementary, embryonal condition, it at last becomes medullary tissue, and as such will be the subject of absorption. If you examine the jaw of a person eighty or ninety years old under the microscope, you will find that such a jaw is scarcely more than a thin ledge, for when the teeth have fallen out the jaws are more or less absorbed. What happens in and around the socket of a tooth after the latter is extracted? The microscope is destined to settle such questions, and the more attention given to scientific research of this kind, with the aid of the microscope, the greater will be the progress in the wonderful department of dentistry.—*Carl Heintzman*.

The Ohio State Dental Society will meet in Springfield on Wednesday, October 28th, and continue three days. J. R. Callahan, Secretary.

TEETH IN CONTACT.

FRIEND ITEMS:—On page 426, September number, you take some exception to remarks on “contact of teeth” made by me before the Odontological Society.

Such an apparently absurd remark as I made* probably needs some defense and I am prepared to make it.

I think on second thought you will conclude that a *fact* that is a *reality* upsets *all theories to the contrary*, and that is the sense of the contact of what was said. Isolated facts “wrongly interpreted” cannot be facts, because a *fact* must coincide with the theory, or the relation of one to the other is false and fails any longer to be a *reality* or fact.

Now if it should happen that a man in Philadelphia who calls himself an old man (I doubt the *fact* of age perhaps in this case) should have a state of things in his mouth that I have been striving to find for some years, this exception would not prove anything, it may be, but the *rule*.

We might lay down an axiom that “the man who progresses must differ from the teachings of his instructors.” I do not see how it can be otherwise.

Now the theory of contact that I maintain has never been taught me by any dentist. I have been alone many times in my theories, but I have been to nature for my studies. The great prepondering weight of theory, and corresponding practice, has been and is now *against* me; but there are some thoughtful men and good operators, who are pretty close on my ground, and I made the statement you publish for criticism, and to bring out thought and expression on this point. I want it examined. I think the day is not distant when a great many men will reverse their ideas on the subject of contact.

I think no intelligent man will deny the fact that the most beautiful normal typical sets of teeth show contact always. In fact there can be no *dental arch* without *contact*; the moment the teeth stand separate either by over osseous development, by irregularity, or by the hands and files of the space makers, the *arch* is *broken*, and it is only by the maintenance of *proper contact* that the teeth get the lateral support best needed to keep the teeth in place during the years of later life when vitality is not so great as in earlier periods.

I have lived to see many dental theories promulgated as facts pass away. You may remember the statement,—“Any tooth *worth filling*

* The statement made by Dr. Codman, criticized by us in September ITEMS was this: “I do not think in the city of New York any old man can be found with a good set of teeth, unless those teeth are in contact.” We thought this absurd.—Ed, ITEMS.

can be filled with gold," and "Gold and amalgam cannot be placed in the same tooth," on account of "the electricity." "Nitrous oxide gas is not taken into the blood." "Sub-marine fillings of gold may be put in in five or ten minutes and will last." "In nine cases out of ten it is advisable to extract the sixth year molars, and if you extract one take out all the four." "If you want to get room in regulating extract some teeth, etc."

All I have to say to the Rip Van's is if they have any pet theories laying away on the upper shelves take them down and dust them and try them on the market and see if they are of any value. You will find they (the theories—many of them) are growing old fast, and when put up at the dental auction rooms there won't be a bid on them. And I try the same test myself. My theories—perhaps they are not facts—are on the market and I trust that if now their value seems small each succeeding year it may appreciate, but if they are destined to pass into forgetfulness, like some I have stated that came into mind on the spur of the moment, I shall be content, so that error shall be crushed and truth live.

JOHN T. CODMAN.

REMARKS BY THE EDITOR.

Why speak of "a man in Philadelphia who calls himself an old man?" No reference to such a man was made in the remarks you are criticizing. The example we gave of sound teeth not in contact was our own, right here in Vineland, N. J. A dentist by our side says: "Refer him to your old friend, Gage." Yes; he is sixty years old, with a beautiful symmetrical set of teeth, upper and lower, and he ascribes their healthy, regular condition to their separation. The front teeth of this dentist by my side is another instance of strong, regular, healthy teeth in separation.

Your assertion that "there can be no dental arch without contact," is a singular statement. We shall be obliged to leave it with our readers to fathom.

We think they will find no difficulty in disproving the statement that "it is only by maintenance of proper contact that the teeth get lateral support best needed to keep the teeth in place during the years of later life, when vitality is not so great as in earlier periods." Our readers will be able to recall less healthy teeth in contact in the mouths of the aged than of teeth with slight spaces between them. Our own teeth are kept in place without contact. We have not a tooth either loose or in irregular position or inclination, and we certainly know many of like character.

Sensitiveness of Enamel.—I would like to object to the statement that the enamel is destitute of sensibility, and that it simply serves as a shield for the more complicated, animated and vitalized structure of the dentine. Few dentists to-day will maintain that the enamel is destitute of sensibility. From what I have felt in my own teeth, and what I have seen under the microscope, I must object to the statement that the enamel is less vitalized and less complicated in structure than the dentine. It is very complicated indeed.—*Carl Heintz-man.*

"THE AMERICAN SYSTEM."—PROSTHETIC DENTISTRY.

DR. L. P. HASKELL.

MOUNTING TEETH ON GOLD.

More than twenty pages are devoted to mounting teeth on gold ; especially the mounting of full sets, upper and lower, of single gum teeth.

As I have before remarked, the time is past when there is any necessity for making this style of denture. It is the most difficult to make, more risk is involved, and, when it is done, is not to be compared with a gold plate and rubber attachments, either for appearance, comfort or cleanliness ; and the latter can be made in half the time, and no risk of spoiling by a novice. The price is as much as for Continuous Gum, and not worth as much. I will pass over the grinding and arranging of gum teeth, except to say, the use of shellac is entirely unnecessary. I find no need of anything but the wax and gutta-percha, which is prepared for base-plates. The wax cards, on which the teeth are sold, is excellent.

The statement that in partial sets the teeth cannot be tried in the mouth, but should be arranged on the plaster cast, I have never found correct, and always, from one tooth to the full set, rely wholly on the mouth arrangement with the wax I have mentioned.

INVESTMENT.

It is stated that this should be one-half to three-quarters of an inch in thicknesses. The less there is the better, taking less time to heat up, less difficult to keep hot, and easier to handle. Use sheet-iron rings, three-quarters to one inch wide, and a little larger than the case to invest ; this, also, insures safety in handling.

BACKING.

It is stated that the pins must always be scraped. I have never seen a necessity for it, especially when the pins are rivetted, for then the solder cannot come in contact with the sides of the pin. To dispense with this labor, and also with rivetting, simply split the head of the pin, so as to hold the backing, and then the solder will flow into the hole and on the sides of the pin, making the hold much stronger. It is well to enlarge the hole a little, if the punch makes a close fit.

POLISHING.

It is advised to *scrape* the entire surface of the plate with a sharp graver. This is multiplying labor without cause. Drive a piece of stick into the chuck hole of the lathe ; with a sharp knife turn it true and to a blunt point ; then, with pumice and water, an excellent finish can be put on the plate in a short time, using finally a small soft brush wheel, and after the pumice, whiting or rouge.

ALVEOLAR ABSCESS.

DR. L. C. INGERSOLL, IN HIS DENTAL SCIENCE.

This is a diseased condition of the alveolodental membrane, presenting the following new formations, viz.: a sack with a neck attached to the root-membrane at or near the apex of the root and containing pus; a drain-tube leading from within the sack outward and opening on the surface, through which the pus is evacuated. This is a *formed abscess*. An alveolar abscess may exist for years manifesting no other symptoms than a slight uneasiness and discomfort from an occasional rising and discharge of a pustule of the mucous membrane, and a slight tenderness on percussion. In others there is a variably frequent recurrence of an extensive swelling of the gum attended with severe pain and a free discharge of purulent matter often called a gum-boil. In extensive swelling the tooth is very loose.

All the successive stages from irritation to suppuration are finally manifested.

The disease originates by the infiltration of septic poison through the dental foramen and into the tissue of the root membrane. This poison consists of gases and septic matter formed by the decomposition of a dead pulp, or of other matter crowded into an open root canal. The first symptom is that of acute inflammation of the root membrane, though it is confined to a limited area immediately surrounding the apical foramen. The irritation and succeeding inflammation usually last for days, during which there is experienced a sense of uneasiness, pressure and slight gnawing pain. The inflamed portion of the membrane becomes thickened into a rounded mass of dense, fibrous tissue, bearing all the marks of tumefaction. For its enlargement the alveolar bone becomes absorbed. During these active processes severe pain is experienced; the affected tooth can be distinctly identified.

The inflammatory condition manifests itself in the gum. In this condition, when chronic, it may remain for months, giving scarcely a painful symptom. This is the condition of many pulpless teeth and roots,—a tumefaction of the root membrane, an *incipient abscess*. The most gentle probing or other irritating cause may suddenly start an acute inflammation followed rapidly by congestion and suppuration and breaking down of the tumefaction.* The liberated gases and pus may at first pass off through the root canal or be absorbed by the surrounding tissues, but if the inflammation is active, the clogging of the root canal and the failure of absorption causes an accumulation of disorganized elements and separates the tumefied membrane

[* This accounts for an active abscess sometimes following the removal of a root filling which has successfully preserved a tooth for years.—EDITOR ITEMS.]

from the cement, while the coagulable lymph which has been exuded for vital protection against the infiltrating poisons, becomes utilized in the formation of a thick, fibrous sac to restrain the pus from further infiltration into the soft tissues. The pressure of the confined pus against the alveolar walls induces absorption, which by some instinct of nature takes place at a single point only, and *that* the nearest point through which the external surface can be reached. As the perforation of the bone progresses a fibrous tube of the same tissue as sac is formed, which passes through the bone and opens with a sinus on the gum or external skin.

THE LIFE OF THE CEMENT THAT COVERS THE ROOT.

PROF. CARL HEITZMANN, NEW YORK.

Cement is a structure similar to bone, and specially in its lower portions, contains lakes filled with branching corpuscles, similar to bone-tissue and termed cement corpuscles; their off-shoots pervade the basis-substance, producing a continuous network of living material. What we know to-day to be cement corpuscles were, in previous years, considered as mere lakes, the hollow spaces of which send out off-shoots, the so called canals. The idea prevailed that they contained a liquid holding lime salts in solution. Others maintained that the contents were gaseous in nature. Neither of those theories is correct. Cement is of the same structure as bone-tissue; its lakes contain living substance in the shape of protoplasm, the bone corpuscles, these being the centers from which a certain territory is supplied with living material too.

Cement, as dentine and enamel—the three hardest and densest tissues of the teeth—are living tissues, so long as the tooth is in connection with the living organism; so long, at least, as the central part, or pulp, is present, in which we know there are a great many nerves and blood-vessels. If the pulp is destroyed, we have still a live connection with the surrounding pericementum, which is composed of bundles of fibrous tissue, surrounding the root of the tooth, and containing blood-vessels and nerves. We necessarily come to the conclusion that even an apparently dead tooth, that is, a tooth deprived of its pulp, must to a certain extent be supplied with nourishing material and be alive, at least in the peripheral portions of the cement. How far that life goes nobody can say, for it is impossible to determine under the microscope the difference between living material that is still alive and living material that has become dead. The fibers are preserved, and so is the delicate network, and we may infer that there is a degree of vitality left in the cement even after the destruction of the pulp.

DENTAL SOCIETIES.

DR. PARSON SHAW, OF ENGLAND.

No dental organization has a right even to be born, much less to live, unless it is intended to perform, and is capable of performing, some real usefulness to the dental profession and the public; and has no right to live a day longer than it fulfills its mission. As a purely scientific dental society is the only medium through which a large amount of necessary work can be accomplished, its right to live is self-evident. What we want, and must have, if we are to make progress, is a society whose meetings we can easily attend, and is composed of members tolerably familiar with each other, so that the every day subjects connected with the profession can be freely discussed; for it is just these little subjects which are so apt to be neglected (because they are thought to be trivial, though they are of the first importance) that should most engage our attention. Most of us know the old proverb. "He that regardeth little things, little by little shall he rise; but he that despiseth little things, little by little shall he fall." A local dental society is therefore, an absolute necessity in every commercial center, where it can be easy of access to a fair number of dentists. In these societies men will not only come together to be instructed, but in them they will learn how to instruct others. A great many people labor under the mistaken notion that the quiet and humble members of a profession can be of no use in the dissemination of knowledge, but my experience does not bear out that view. He who greatly distrusts his his own powers, is just the man, because of this distrust, to have made an effort to improve on his assumed deficiency, and can, therefore, tell you something worth knowing. On the other hand, the man who thinks he has a prescriptive right to be always first, is usually the one who should play the poodle dog in the procession, and bring up the rear. Nor is it my experience that the men who occupy the best positions know the most; for it is certain that many men deplorably ignorant of dentistry, have large practices, and hold what position they have in the profession more from some good luck than from their knowledge or skill. While I have stood aghast at the specimens of so-called dentistry which have been shown me as the work of men with large practices in London and elsewhere, I have often admired the work of the late Mr. Patrick, of Bolton, and other unassuming gentlemen. Yet, though one of the best dentists of his day, how far beyond Bolton did the fame of Mr. Patrick extend? A certain set of individuals, because their fathers were able to pay a schoolmaster to birch into their brains a modicum of that parrotism which too frequently passes for education, are forever assuming that they are the men of light and learning, and in consequence, have an undoubted right to

all the best positions, though a great portion of what they have been taught was held only just long enough to pass some prescribed examination. These men labor under the delusion that passing through a certain curriculum gave them knowledge, trained their minds, taught them how to think, and made them into "gentlemen."

English vs. American Artificial Teeth.—An English correspondent in the *Dental Review* says: In the adaptability of plain teeth to the greatest variety of cases I think the English manufacturers lead the world, for they certainly have attained to a proficiency hardly dreamed of in America.

In the manufacture of artificial teeth a different method of manipulation is in vogue here to that common in the United States, the tooth body being *poured* into the molds instead of being packed with a spatula. This secures at once a homogeneous mass, which on being baked, ensures a softness of shade, not found where the unequal density of a tooth is manifest by the innumerable large and small bubbles contained therein, showing beyond doubt, the particles are not in reasonably perfect apposition, thereby seriously impairing the refractive power of the tooth, and producing a hard vitreous surface, that is anything but natural in appearance.

The colors of English teeth do not stand so well when subjected to high temperature as do those of American manufacturers, owing possibly to some modification in their composition, but more on account of the before mentioned difference in the initial stages of preparation. That is the reason I believe there are no continuous gum teeth made on this side, a result that is to be deplored, for, were they obtainable, I think the results would leave little to be desired in prosthetic dentistry.

In connection with this subject, I wish to notice a convenient arrangement to facilitate the selection of teeth for a given case. Ash & Sons have a string of shade teeth, mounted on strips of nickled brass, all indexed and numbered, of all the shades they make. By having their stock assorted according to shades, the selection of teeth for a given case is a work of expedition and simplicity.

Separating Teeth.—Let me tell you how I deal with my patients. I feel that they are entitled to know what I propose to do for them, and the reason why. I show them the facts of separation and soundness; of contact and decay. Two teeth, pointed out as naturally apart, are examined and found whole. Other teeth are seen to touch at their sides, and inspection reveals their defects. In this simple way a great truth is proclaimed and believed. I gain their im-

plicit faith because their intelligence comprehends what has been said. But they cannot understand why a difference of opinion exists in my profession on a subject so plain to them; and the inquiry comes, "Why do not all dentists practice the things you advise?" And I answer, "The Lord only knows. It is hard to realize that the evident to you should be invisible to them." My brethren, I entreat you to wake up to the importance of separation among teeth, for without it their salvation is in no wise assured. Dental culture is a necessity to civilization, which, freighted from inimical forces, is full of threatenings. The gardens of the mouth invite your earnest care. Shall they develop into visions of beauty, or lapse by neglect to unsightly wastes.—*J. W. Clowes.*

EDITOR ITEMS:—I have the pleasure of acknowledging the receipt through the ITEMS of the criticisms of Dr. Fletcher on my essay on cements.

That part of the essay relative to the impairing of the setting properties of plaster-of-Paris by the action of a high heat in decomposing of the sulphuric acid of the plaster, was placed there by the suggestion of the Iowa State Dental Society, so as to be in harmony with the only criticism made before the Society, and that was made by a professor of chemistry of a State University.

Dr. Fletcher will please accept of my thanks for calling the attention of the profession to this error. The remainder of the essay is as good chemistry as is his when he states "that all sulphates are more or less soluble in water," which he charges us with forgetting. How is it with $\text{BaO.}, \text{So}_3$?

Tabor, Iowa.

Yours,

J. F. SANBORN.

A common trouble with us all is that we fail in our business because we think little of it. No man truly succeeds in any calling who has a poor opinion of it. No man has a good opinion of his business who uses it only to make money out of it. No man can have the best conception of his business who does not esteem it for its usefulness. And the higher we go—if "higher" and "lower" are proper terms to use in considering the different honorable and useful walks of life—the more clearly will it appear that he who only esteems his business for the living or money that is in it, if judged by any high standard, will be a failure.—*Dr. Hapgood.*

For Earache.—A gentle stream of water as hot as can be borne, directed into the ear from a fountain syringe, is better than poultices or anodynes.—*Good Health.*

HOW TO EDUCATE THE MASSES.

DR. C. W. MUNSON, TOLEDO, OHIO.

Editor Items: I am glad to see evidences of an awakening to the necessity of some practical and effective method of teaching the people generally, the value of the teeth and the necessity of giving them proper care and attention. The dental profession has made rapid advance during the past twenty-five years, but it has not carried the people with it. Only those who have been under the care of competent dentists, really understand the importance of this question. The great mass of the people are either misinformed or ignorant on most questions pertaining to health from a dental standpoint. How to correct the one and remedy the other, and so sustain *all* the people effectually on this all-important subject, is worthy the careful attention of every dentist who would advance our profession to its highest usefulness and its proper place in the estimation of the people. In England, popular lectures are delivered before the school; and I see a few dentists in this country are emulating the example of our English brethren. Dr. Bethel, in the *Ohio Journal* of July, advocates the introduction of dental hygiene, etc., into the text-books of our schools. Both plans are good so far as they go, but it is of little use to instruct children on a subject and leave the parents ignorant; for however well instructed children may be, if parents are ignorant or prejudiced, the beneficial results will not be commensurate with the outlay. But reverse the proposition, and instruct the parent with the necessity of action, and the child will receive more immediate benefit.

The question then is, how can all the people be reached? Americans are a *reading* and a *thinking* people. Put before them facts and arguments, instruction based on reason and it usually convinces.

Many will believe what they *read* who would not accept and act on the same truths if presented verbally by a dentist, because their reason would be biased by the thought that he was working for his own good, not theirs. Much has been done by the circulation of popular dental literature. Besides this every *live* dentist should prepare a plain, practical presentation of dental subjects, and arrange for their publication in his local newspaper. If this plan is *thoroughly*, *wisely* and *persistently* carried out, much practical good will result.

Drying Canal in Roots.—Dr. Geo. M. Evans, of New York, makes a silver probe about the size and shape of an ordinary excavator, drawn out to a fine point and slightly bent at the end. About an inch and a half from the end he has a large mass or bulb of the same metal, which he heats thoroughly, and then, by passing the end into the root o the apex, he is able to convey much heat there.

SHALL WE NEVER EXTRACT TO REGULATE?

DR. W. E. DRISCOLL, MANATEE, FLA.

The significance of the natural form and arrangement of the dental arches of man, with a consideration of the changes which occur as a result of their artificial derangement by filing or by the extraction of teeth," is the comprehensive title of a paper read before the N. Y. Odontological Society, April 12, 1887, from Isaac B. Davenport, M. D. S., M. D., of Paris, France. I would advise every member of the dental profession to read and re-read that essay. Few will do so without being better qualified to practice dentistry. While this is the truth, the paper is another illustration of the seeming supposition of a class of dentists who are always free to do exactly what is best for their patients without reference to fees or favor. The importance of this side view can be appreciated if we realize that at least half the people applying for dental service the world over are not able financially to have the best service, or are unwilling to pay for it. Hence in half the cases we treat the ideal cannot be followed. Can anyone say this half need not be considered in our decisions? Perhaps the first call a dentist has, after reading the above exposition of an ideal practice, will bring the subject squarely home to him. Right here we face the fact that the ideal must give way to the real, half the time. What then shall be our practice in the half that cannot or will not pay for the best? It must be the next best he can or will pay for. This leads to a great addition to methods to be adopted, aside from the ideal. Perhaps it is because the fact is humiliating that it is avoided by so many writers. But to ignore it in all discussions or practice is assuming that we do not have to trouble ourselves with any but the wealthy and affluent. We must look at these questions from all standpoints. A view from a pair of stilts is well enough, but one from the ground is as necessary. Let us strive for the ideal, but not refuse to be practical. The ideal is always beautiful, the real is often repulsive, but must be dealt with. It is the absence of the ideal that makes dentistry necessary. Let us not ignore facts.

Can we define the value of a tooth?—A tooth is worth itself, the teeth with which it occludes, and all that they united can do for the organization. Not long since I saw a lady who at eighteen years of age had the toothache, and the dentist whom she consulted extracted three lower molars on one side for that one toothache. That person was crippled for life for one single toothache! It makes one burn with indignation to hear such practice called dentistry, and such a man called a dentist.—*H. C. Meriam.*

HEMORRHAGIC DIATHESIS.

Editor Medical World:

I have a family under my care who are disposed to bleed to death on any and all occasions offered, no matter how slight the wound; if the skin is merely scratched, severe hæmorrhage follows.

About two weeks ago one of the children scratched the lower lip on a pin, and up to this time I have been unable to stop the flow of blood longer than a few hours at a time. Have cauterized the wound, and used all known remedies locally, but to no purpose. As soon as the blood stops flowing the parts begin to swell, and when the parts become full of blood it will start to bleeding and keep it up till the swelling is all out, when the same thing is repeated; compresses do no good. There are four children in the family, and the same trouble affects each. Neither of the parents were affected in a similar way.

What is the trouble and what is the treatment?

Spencerville, Ohio.

J. R. WELCH, M.D.

[What answers shall we have?—ED. ITEMS.]

THE EFFECT OF ALCOHOL.

The special pleading against alcohol in ITEMS is, I think, not calculated to reform the temperate man or the drunkard. It is rather curious to read that alcohol "precipitates pepsin," when one of the most celebrated makers of pepsin, working under the instructions of one of our greatest specialists in dyspepsia, recommends it to be *dissolved* in light wines.

It is of course possible to "poison with alcohol" as it is with vinegar, pepper, mustard, pickles and a good many other things if enough is taken for the purpose. The action of alcohol in displacing water from fresh animal tissue would be the same as the action of glycerine, salt water, syrup or any other fluid, and Licby's experiment given is worthless because it does not give the percentage of alcohol used in proportion to the water. If enough alcohol had been used to make the mixture with 99 per cent of alcohol, no doubt 99 per cent of water would be removed and replaced with spirit, but this does not appear to prove anything.

"Alcohol in small quantities is said (?) to act as a stimulus." The fact that it is "said" to do so proves nothing. Alcohol in small doses, diluted with water, is an alterative. It is not a "stimulus" in any sense of the word.

The experiments with from 4 to 10 ounces of alcohol—from nearly one-third to fully two-thirds of a bottle of proof rum or brandy

per day, are of little value except to show that habitual and excessive drunkards are liable to have their pulse quickened, but no proof is given that an extra quantity of blood is forced by the heart, corresponding to the calculated extra work ; any way the extra work thrown on the heart if it proves anything, proves that alcohol is *not* a stimulant, but rather a sedative in its general action. I am by no means a believer in the use of wines and spirits, and my own use of them is very limited ; but the cause of temperance is often damaged by one-sided and unproved statements, which lead those who read them to believe that the whole of the evidence against alcohol, is manufactured simply because no true evidence can be brought forward against it. Scripture quotations against alcohol are certainly out of place ; it is quite as easy to quote from scripture one way as the other, and with as much reason and justice.

A. S. T.

NEW USE OF COCAINE.

It has been my misfortune to have lost many of my molars, because I have never been able to retain them after nerve exposure. During the past year two of my incisors have had the nerves become exposed by spontaneous abrasion. I took out the nerves and treated them in the usual way, and as soon as they commenced to ulcerate placed a pledget of cotton on the gum saturated with a 15 per cent solution of cocaine, holding it there for ten minutes or more. I have found perfect relief. If you were aware of the horror I feel at the possibility of ever being compelled to wear artificial dentures in my mouth you would appreciate the pleasure I felt on making the above discovery.

BENJ. F. WRIGHT.

Is it not a shame for *any* one to speak of it as a "*misfortune* to have lost many of my molars because I have never been able to retain them *after nerve exposure*?" What must a man be made of who neglects his teeth till their "nerves" are exposed? And then to complain because he cannot retain them after such unreasonable neglect! Yet this is a dentist. How mortifying to know we have such a person in the profession.

"During the past year," he says, "two of my incisors have had the nerves become exposed by spontaneous abrasion." Pray, what is *spontaneous abrasion*? If he means he has been obliged to use his front teeth as grinders because he has thrown away the teeth nature has assigned to this duty, it is only another evidence of criminal negligence. But even this pulp exposure could have been avoided by proper and timely capping.

We suppose by an ulcer he means an abscess ; but whether the teeth are effected by one or the other, the application of cocaine to the gum cannot cure ; it only alleviates the pain.—Ed. ITEMS.

DEATH FROM ALVEOLAR ABSCESS.

A nine-year old daughter of Rev. B——, in Western Pennsylvania, had been troubled for several days with an aching tooth, which finally assumed an acute form of alveolar abscess. The trouble was overlooked till it reached an alarming stage, when the offending tooth was extracted. This afforded little or no relief, blood poisoning setting in, and though all was done possible in the way of medical attention, the child died about the ninth day from the beginning of the trouble. Six different *physicians* were in consultation at different times, each with his own opinion in regard to the cause of death.

This cites another case in which a disease deemed simple by many has, through unintentional neglect, become fatal. C. P. H.

COMMENTS BY THE EDITOR OF "THE ITEMS."

We see no good reason why the full address of this child should not have been given.

The report is altogether too vague and unprofessional. Which was the tooth affected? What evidence have we that it was abscessed? What was the condition of the child otherwise?

Alveolar abscess seldom becomes malignant,—perhaps never, unless it is broken down, forming an ulceration, and this ulceration seldom becomes malignant, perhaps never unless from a virus already in the blood. We think blood poisoning from such a cause would have been impossible in so short a time—"the ninth day from the beginning of the trouble"—and the fact that the extraction of this tooth gave "little or no relief" is evidence that alveolar abscess was not the cause of either death or blood poisoning.

Extracting to Regulate.—We have in Philadelphia one practitioner who for many years has been in the habit of extracting the lateral incisors to make room for the superior cuspids. I have learned to recognize people as his patients when seeing them in the horse-cars and on the streets, in consequence of the facial deformity which must ensue when the cuspids are thrown so far forward. We have another practitioner who seems to think the sixth-year molar was developed for his forceps. He almost invariably extracts the sixth-year molars from the mouths of his young patients,—not because they are past saving or because their preservation is even doubtful, but because they are sixth-year molars. A few years ago a lady brought her little girl, about eight years of age, to me. On examination I found very small cavities in her sixth-year molars which I filled. A year or two later I asked after the child, and was told that her father had taken her to his dentist, and he (the man who condemns first molars) had extracted all four of them. What is the result in her case? There are large spaces between the bicuspid, the second molars tip forward, and the whole articulation is defective. I have in my possession a model

of a similar case. It is from a large lower jaw,—plenty of room for a full compliment of teeth,—but the sixth-year molars were removed, and as a consequence the second bicuspid have gone back against the second molars, leaving a space of nearly half an inch between the first and second bicuspid. Dentists, like other men, sometimes ride hobbies. This dentist's hobby seems to be the removal of sixth-year molars, and, irrespective of their condition or the development of the jaw, they are condemned.

When the question of extraction for the correction of irregularity presents itself, I study the child's features with as much interest as I would study a book. I look at the child's full face and then the profile, and endeavor to ascertain, if possible, what facial changes would be brought about if teeth were removed. A child's features may be ruined by the injudicious removal of certain teeth. In my judgment, more is lost than is gained by the removal of first molars.—*E. T. Darby.*

INFORMATION WANTED.

DEAR ITEMS:—I would like to give a case in practice, and learn from yourself, or some of your learned readers, the cause and treatment. I extracted a lower left wisdom tooth for a lady patient, March 26th, last. There was no room on the arch for the tooth to develop, and was only partially through the gums for several years, and had given pain and trouble since its first appearance. I extracted the tooth with about the average amount of force. After extraction, intense pain ensued, and continued for nearly three weeks. For the first few days I used about all the known dental remedies without apparent benefit. I advised that the patient be kept under the influence of opiates, which was done, and finally pain subsided, except that ever since severe paroxysms of pain will shoot through the lower jaw and left side of the face followed by numbness in the lower jaw, extending from about the second molar to the lower left central incisor. It is now five months since the extracting, but this numbness and shooting pain still recur. I would like to know the cause of this long, severe pain; and the cause of this numbness and these periodical pains in the inferior dental nerve; also, what treatment to pursue? W. S. B.

Denver, Col.

Neuralgia from Affected Teeth—In support of the fact that you may have neuralgic pain in any part of the body from dental irritation, I will refer to a case. A physician presented me to a lady at her house. She had been in bed eighteen months, and had had tremendous night-sweats for four months. A case of well-defined neuralgia. There were various points on her body which, if you touched, she would scream. I examined her teeth and found two that I

thought were the cause of the trouble, and insisted on their removal. They had no antagonists. I extracted them, and before the bleeding ceased she was entirely free from neuralgia, which had troubled her for eighteen months. There were certain points on her shoulders, scalp and spine, which, if you touched, she would scream, so severe was the pain.

There was considerable inflammation of the membrane near the teeth; the roots were in a slightly hypertrophied condition; the cement was double the ordinary thickness, with thickening of the dental membrane. There was some inflammation at that point, which gave her some pain.

The teeth were elongated slightly. That was one of the points on which I based my conclusion. The teeth being elongated, there was, necessarily, some abnormal condition at the root of the teeth, and I suspected that as being the cause of their trouble, and so decided to remove them.

DR. MORGAN.

What was the original Type of the Horse?—Dr. Abbott says: There is something about the type of the horse peculiar and interesting. They claim, as you know, that the original or typical horse was a little animal about a foot long, and that it ran upon these toes as our horse does on one toe. It was not a carnivorous animal, but was subject to the ravages of carnivorous animals, and had to seek safety by getting out of the way; and the invironments of the animal, the necessity of saving its own life, has developed the present type of the horse, having but one big toe, and it is his big-toe nail that we shoe. All the other toes, because they were not used have dropt away. A little bit of horny growth on the shank opposite the ankle joint remains sometimes as a rudimentary evidence of one of the original toes of the horse. The necessities of the animal have forced it into these changes; not that the type has changed voluntarily. It is just so with human beings. Necessity has demanded certain changes, and they have come, and do come. There is no type of mule. There is a typical horse and a typical donkey; but when you mix those types you get a modified product that cannot be carried any farther.

Professional Education.—Educators and friends of education are agitating, as never before, a change in the methods now in use. They make more prominent technical education, which deals with facts, models and their skilful use, making the classical course subordinate and uniting the two. This is given with mental discipline, a knowledge of the practical in every-day life.

DR. A. B. RAMSEY.

Pittsburg.

COCAINE AS A STYPTIC.

DR. BÖDECKER, IN FIRST DIST. DEN. SOCIETY OF NEW YORK.

I had an interesting incident in connection with the use of cocaine about four weeks ago. A patient of mine had four or five lower roots which, every time he closed his mouth, caused him severe pain, but which he had not had extracted because he belongs to the class of hemophilia, or "bleeders," who, when they are cut or wounded, find great difficulty in stopping the hemorrhage. Particular care is therefore necessary in attending to his teeth. This patient came into my hands about two years ago. A tooth had been removed for him, and he immediately went to the German Hospital, where he laid for five or six days without their being able to suppress the hemorrhage. Everything was tried that they could think of, and two dentists were called in to see what they could do, but without success, till Dr. Adler took a piece of cotton and held it in the wound for three-quarters of an hour, and as soon as he let go an assistant took his place, and then another, and in this way they finally stopped the bleeding, and saved the patient's life. Soon after he came into my hands, his tongue and mouth being badly burned by chloride of iron, and the gum in a bad condition. He was advised to have the other roots treated, but they were so loose that nothing could be done with them. Since then I have treated his gums, and they are now in a nice condition; but the old roots annoyed him so much that the other night he could stand it no longer. He said he would rather die than not be able to eat any more. So I took out one of the roots. The hemorrhage that resulted was very bad and persistent. I applied chloride of iron, but no sooner had I put the cotton in place than it was forced out. I had read of cocaine being an excellent styptic, so I moistened a pellet of cotton with the four per cent. aqueous solution, pushed it down and held it two or three minutes, and the patient has not lost a drop of blood since. I have used cocaine in several instances where I had difficulty in getting at cavities where the gum impinged on them, and it has never failed.

—*Cosmos.*

Tolerance must not be confounded with toleration. Tolerance is the disposition; toleration the way it is used. The key-note of tolerance is found in positive conviction and sympathy and intelligent understanding. It has been long supposed that to be tolerant of others we could not be bigots, but I believe the deeper our creed is within us the better able are we to bear with what we believe to be the mistaken opinions of others. Charles James Fox voiced the popular idea when he said skepticism is necessary to tolerance. He was wrong. Earnest, honest conviction is needed to feel true tolerance. Frederick Maurice said tolerance was charity founded on the uncertainty of truth, and

Dr. Holmes has written that tolerance is the insult one set of well-behaved people pay to another set of well-behaved people. This is entirely a mistaken idea. I do not insult my friend with whom I differ in opinion because I allow him to maintain it without condemning him to the axe or firebrand. Both of us have earnest convictions and personal intelligence, which are the great essentials toward a proper forbearing spirit.

There are many qualities of tolerance which I would divide under six heads. The first is the lowest form of all, pure indifference. The second is the tolerance of policy, as when Burke spoke of toleration as a strong factor in politics. The third is the toleration of helplessness, and the fourth the toleration of manliness, that human respect we have for one another. The fifth is toleration of sympathy,—that is, when we know others mean well and are trying to do what they hold is right, though we think they are mistaken. And the sixth quality is that tolerance which grows with a knowledge that truth is larger than our powers of conception, and that others may have some of it besides ourselves. It is the willing consent that others may hold and express opinions contrary to our own until they are convinced of their error by argument and reason.—*Rev. Phillips Brooks.*

HURRY AND DISPATCH.

Among the many causes of poor and inefficient work is the habit of hurry, which takes possession of some busy people. Having or imagining they have more to do in a given time than can be done properly, they grow confused, agitated, and nervous; and, under this pressure, they proceed with the work in hand without requisite deliberation and care, perhaps omitting parts of it—sometimes important parts—and producing at last an imperfect and inferior performance, which can neither be permanent nor satisfactory.

There is hardly any employment, from the simplest manual work to the most complex and difficult mental labor, that does not suffer from this cause. The dwelling house in process of building is to be finished at a certain time. With proper forethought and system it would have been done, but the time approaches and the work is still incomplete. The future occupants are impatient, the contractor is anxious, the workmen are driven, the work is hurried through, and annoyance, discomfort, and sometimes danger ensue, and repairs are soon found necessary. The business man undertakes more than he can manage, the days are not long enough for his needs, he is agitated by the constant pressure, driven by conflicting claims, his business suffers for the want of a clear and cool head, his health suffers from continual and unrelaxed exertion, his family suffers from his deterioration, and

general disaster ensues. The physician, with many other calls to make, hurries through the visit, neglecting some important symptom, and his patient dies; the lawyer hurries through his plea, and loses his case; the preacher hurries through the preparation of his sermon, and fails to make an impression; the artist hurries on his picture to completion, and his best conception is not there; the teacher hurries through a prescribed course of instruction, and the class is left destitute of the more important elements of knowledge. It is not too much to say that a large proportion of the unhappiness, the ignorance, the loss of property, and even the loss of life, that is endured in the world is to be directly traced to the hurry and drive which characterize so much of the labor performed.

Many persons not only drift into these hurried ways, but pride themselves upon them. They boast of their speed, and contrast it with the slower measures of their more deliberate neighbors. They flatter themselves upon their dispatch, and hold themselves of more value on that account. Slowness in work, lingering or loitering over what is to be done, is not to be recommended. On the contrary, energy and vigor will prompt the healthy and industrious man to labor steadily and rapidly, while neglecting nothing that is needed to perfect his work. But this is very different from the agitated and excited hurry which has been mentioned, and which is to be deprecated.—*Phila. Ledger.*

Do not be contented with avoiding evil.—If we were more anxious to do something worthy of our being, we should have less regret for doing unworthy things. Let us study, therefore, more to know what we ought to do, than what we ought not to do. In the great judgment we shall be judged more for what we ought to have done than for what we ought not to have done. In other words, we should be so busy and so delighted in doing worthy things that we shall have no time or disposition to do unworthy things.

Some people measure their standing by what they do *not* do. As the pharisee, they tell the Lord what they have not done, and, therefore, how far above the publican they are. But unless we do energetically the reverse of doing wrong, we are doing wrong all the time. The world demands,—our conscience demands,—God's Word demands,—that we be a *positive* factor in the world's improvement, and to be this we must be constantly improving ourselves.

Fresh Air.—There are too many gentlemen, even in the highest classes, who have a pure and right love of fresh air. They would put the filth of tobacco even into the first breeze of a May morning.—**RUSKIN.**

A CURIOUS FACT—WHO CAN EXPLAIN?

EDITOR ITEMS:—On Saturday last I put a lower denture of Nubian black rubber into my vulcanizer, which is supplied with a gas regulator and shut-off. Supposing it to be all right, having used it for years, I left the office, leaving the gas turned on as usual, expecting the regulator to shut the gas off in about one hour and a half. What was my surprise on going into my office Sunday, at 2 P. M., to find the gas still burning under the vulcanizer, some twenty hours after being started (my clock regulator had run down, hence the time the gas was burning). I of course expected to find my case burnt up, but on opening the case found it to be vulcanized no harder than if the heat had been under it only the allotted time. The plate is tough and strong. Can you explain this?

J. A. PRIEST.

If rubber is not subjected to an extra high heat, extra time of vulcanizing does not seriously hurt it.—ED. ITEMS.

DISTILLING TURPENTINE.

A turpentine distillery was recently established at New Orleans where a new process of distillation is followed, materially differing from that in use elsewhere. Under the new system, the pine wood is placed in iron retorts charged with superheated steam, and fired with wood from beneath. After six hours gas is evolved, and at the same time there begins to distill a mixture of crude turpentine and tar, from which the gas, being more volatile, separates. The liquid portion flows into a bath, from which it is pumped into the still. Here the crude turpentine is refined, and flows from the mouth of the still into barrels ready for shipment, while the tar is discharged from another opening.

DR. T. B. WELCH:—I have for sometime wanted to whisper a word of commendation in your ear. I have been a reader and friend of the ITEMS since its first issue, and find its short, terse articles just what I want to con during a half hour's wait for a tardy patient—simple, short, right to the point. The tired overworked dentist has neither time nor inclination to read exhaustive articles that require much of the process of "ratiocination" (Bro. Atkinson), and a large tome of Webster's unabridged to fathom. We also support you as a friend to little Robert Reed on the tobacco question—its detrimental effects among the profession and mankind in general. I can relate a little incident that might cause a smile to go round among the readers of the ITEMS. Consider this much for yourself, from one who admires your indomitable pluck and energy in editing a live dental journal, and who believes "the truth is no flattery."

W. W. ROWE.

Greensboro, N. C.

For Our Patients.

COURAGE.

With all the wisdom of the sage,—
 With talent, wealth, position, age,—
 But lacking courage, we are doomed
 To weakness; yes, we are entombed
 In the dark midnight of our fears,
 So helpless in desponding tears,
 We shrink quite from ourselves, and ask
 Some child to lead, and do our task.

With courage we can make one thought,
 Or one small article, well wrought,
 Produce a wealth and give us standing,—
 A vantage ground, high, firm, commanding,—
 Where nothing can impede or fright us.
 Courageous acts will always right us,
 And urge us on, in spite of all
 The powers of earth and hell. We fall,
 If fall we must, with face toward winning,
 Feeling that cowardice is sinning.

Have courage then, my man, a bold
 Undaunted courage that shall hold
 You firmly; giving you such strength,
 And skill, and daring, that at length
 Shall give success, and with success
 A consciousness that you possess
 The qualities that will insure
 Well bought enjoyments that endure.

—T. B. W.

PROHIBITION.

PETROLEUM V. NASBY.

[This great, witty and influential Toledo editor knows from experience what he writes on intemperance. His advice should be listened to as from an oracle.—ED. ITEMS.]

The effect of the alcohol poison is not well enough understood. No man can touch it without fastening on himself a craving for more. This is a physiological law which is fixt and certain. The man who comes to stopping at a place of this kind every night and taking one glass, soon finds a half-a-dozen necessary. And the seller helps him along the downward road as rapidly as possible. There is always on the counter a plate of picked codfish, or red herrings cut into proper lengths, or pretzels covered with salt, all thirst-provokers, and they actually put salt into the beer, that the desire for the pleasant liquor

may be increased. Beer becomes a necessity to him before he is aware of it, and his fate is fixt. The seller can count on so much a day from him as certainly as though he had it in his till.

And this is not all by any means. Lager beer originally contained only three or four per cent of alcohol, but it now contains ten and twelve per cent. The original beer did not make drunkards fast enough. It took too long a time to fix the habit so as to make the victim profitable. Hence they threw in glucose to make more alcohol, and all sorts of cheap drugs of the maddening kind, that the drinker might be bound hand and foot, and put into their possession in an absolutely helpless condition as soon as possible. It was not enough to make a beer-drinker of him; to get the largest profit it became necessary to *make a drunkard of him*. It resulted as anticipated; the beer-drunkard is the worst drunkard in the world, and his chains are the heaviest and strongest.

A more infernal infernalism was never devised, and if it does not call for some sort of law nothing does.

The profit on beer is enormous, and they have a safeguard against taxation in this, that they make their own prices and they have possession of their customers. Should a tax on beer be made so great that the seller should be compelled to double the price, it would make no difference in sales to his regular customers. They must and will have it.

"Back and side go bare,
And hand and foot go cold,
But belly, God send thee good ale enough,
Whether it be new or old."

This is as true as it was in the days when the song was written.

The wide-spread misery caused by this wholesale poisoning of the masses, the poverty, degradation, ignorance, crime, and disease it entails, the increased taxation it has caused, have alarmed the general public, and made some action against it absolutely necessary. In five states, Maine, Iowa, Kansas, Rhode Island and Georgia, prohibition is an accomplished fact, and the sentiment in favor of it is rapidly spreading.

There is no doubt in the mind of anybody that, could the trade in alcoholic stimulants be wiped out entirely, the world would be better for it. No one doubts this, and no one questions it. The liquor seller himself admits it, when what sense of decency is left in him prompts him to remove his own children as far from the business which he follows as possible.

The business is, in and of itself, an organized hunt after weak men and children. If a druggist should entice boys into his store and feed them with opium, that, after the habit was fixt, he might make money

by selling them the drug, there would be no question as to what the community would do with him. If there should be found no law on the statute books to meet his case, one would be made immediately. There would be no talk of "personal liberty" in such a case. Wherein is the difference? The beer-shop keeper makes it his business to entice boys and weak men into his place, and lures them on to an appetite more destructive than opium. He uses every artifice that his ingenuity can devise to fix the alcohol habit on them, to their destruction and his profit.

But does prohibition prohibit, and is prohibition the cure for the evil?

The proof of the pudding is in the eating. I assert that it does, to a sufficient extent to justify the action of the states that have made the experiment, and to encourage those who hope to extend it over all the states. I myself made a tour of Maine, with a view to determining the fact for myself. I explored Portland, the largest city in the state, first. There is liquor sold in Portland, and plenty of it, and yet prohibition has been a pronounced, unequivocal success in that city. Prior to the enactment of the Dow law, some thirty years ago, there were three hundred grog-shops in the city, its population being about 30,000. It was as drunken a city as any in the country, and its rate of poverty, crime and misery was in exact proportion to the number and extent of its liquor shops. In 1883, when I visited the city to determine this question for myself, there were four places only where the law was defied and liquor sold openly. There were some twenty other places where it was sold secretly, but there were only four open bars, and these four could not be said to be open bars. They were in the sub-cellars under the four principal hotels, and so intricate was the ways to them that a guide was necessary; and when you found them they were sorry places. A room twelve foot long by six in width, a cold, dismal, desolate room, lighted by one gas light, and absolutely without furniture. There was not even a chair to sit on; only a small bar, behind which were a few bottles of liquors, with the necessary glasses to drink from. Nobody ever penetrated these horrible places except the confirmed drinkers, who must have their poison, and who dare not trust themselves to keep it in their rooms.

So difficult was it to find, and so dismal and discouraging was it when found, that a Boston man with me remarked, "Well, if this isn't prohibition, it comes very close to it. If I had to take all this trouble to get a drink in Boston, and had no more pleasant place than this to drink in, I don't think I should ever drink."

This is the strength of prohibition. In Portland there are no delightful places fitted up with expensive furniture, no cut glass filled with brilliant liquors, no bars of mahogany with silver railings, no great mirrors on the walls, no luxurious seats on the floor—nothing of the sort. Drunkenness there has no mantle of luxury thrown over it, and the mask of sociality has been ruthlessly torn from it. If you want to get drunk in Portland you go where the material is for that

purpose, and that only. You must go and find it—it is not trying to find you.

Who have taken the places of these three hundred rum-sellers of thirty years ago? Bakers, shoemakers, tailors, milliners, and people of that class. There are no houses vacant, and there is a better class of houses than ever. The effect of prohibition on the material prosperity of the city is marked. The working-men own their own houses, their newspapers are better sustained, they have book stores, art stores, and all that sort of thing, which a whisky city of the same population never did sustain; the small trades are all flourishing, and despite the disadvantages the city labors under by reason of climatic and other conditions, it is one of the most prosperous municipalities in the United States. There was once \$1,500,000 paid annually for rum; that money now goes into the comforts of life, and there is still a wide margin left for luxuries.

In the country towns of Maine the effect is still more marked. The farmers, as liquor is out of sight, do not want it; their children have grown up without knowing the taste of the destroyer, and comfort and prosperity has everywhere taken the place of slovenliness and unthrift.

The best argument I found in Maine for prohibition was by an editor of a paper in Portland, who was, for political reasons, mildly opposed to it. I had a conversation with him which ran something like this. I said:

“Where were you born?”

“In a village about sixty miles from Bangor.”

“Do you remember the condition of things in your village prior to prohibition?”

“Distinctly. There was a vast amount of drunkenness, and consequent disorder and poverty.”

“What was the effect of prohibition?”

“It shut up all the rum shops, and practically banished liquor from the village. It became one of the most quiet and prosperous places on the globe.”

“How long did you live in the village after prohibition?”

“Eleven years, or till I was twenty-one years of age.”

“Then?”

“Then I went to Bangor.”

“Do you drink now?”

“I have never tasted a drop in my life.”

“Why?”

“Up to the age of twenty-one I never saw it, and after that I did not care to take on the habit.”

That is all there is in it. If the boys of the country are not exposed to the infernalism the men are very sure not to be. This man and his schoolmates were saved from rum by the fact that they could not get it till they were old enough to know better. Few men are drunkards who know not the poison till after they are twenty-one. It is the youth that the whisky and beer men want.

Thousands on thousands of men from other states who are slaves to the drink habit, and so securely held by it that they cannot of their own power resist, go to Maine that they may live where it is impossible

to procure the stuff which makes the meat it feeds on. While liquor can be procured anywhere in Maine, if one chooses to go to the trouble and expense necessary, its procurement is so hedged about with difficulty that the victim who really desires to free himself of his appetite generally succeeds. The help that prohibition gives him is enough to turn the scales and he is enabled to let it alone till his restored stomach and new blood give him will power enough to do something for himself. It makes a difference with the man suffering for want of liquor whether he can step into a bar-room on every corner and take the one drink for present relief, or whether he has to go to as much trouble as would pay off a mortgage on a farm to get it. Hundreds go to Maine for a month or two, and come back rejoicing in the thought that they are free. That they do not keep free is owing to the unfortunate fact that they come back to places where liquor is free, and they fall.

It is the great trouble with the rum trade that the producers die off too soon. If a liquor could be invented that would grip mankind as whisky does, and at the same time leave the victim strong to earn money, the trade would be better. But as the appetite not only destroys the power of earning money, but cuts the thread of life very early, new recruits must be made all the time. It is to the youth of their localities that saloon-keepers look for their victims, and they are as sure to find them as they are permitted to exist at all.

My editorial friend is a living example of the uses of prohibition. The business of selling rum in his neighborhood was killed when he was a boy, and that saved him. There was no grog-seller to hunt him down, and he escaped till he was old enough to know better than to drink at all. Prohibition in Maine saves the youth of Maine.

The experience of Kansas and Iowa has been identical with that of Maine. The prohibitory law is evaded in every possible way. The liquor interest did not at once give up the field, nor has it yet. The saloon was driven out, but its place was taken by secret dives, and by all sorts of devices, some of them very ingenious, to defeat the operation of the law. But the object of prohibition is attained. The gaudy saloon is driven off the streets, the sale of liquor is made illegal and disreputable, and the penalties for violation was made so severe that the seller dare not vend except to those whose confirmed appetites make it entirely safe. The boys are saved. No dealer would dare to sell to a boy, much less to go out and hunt for him. And this is exactly what was aimed at by the makers of the law. The confirmed drunkard will have it anyhow, and it makes very little difference whether he has it or not. The thieves, gamblers and prostitutes will have it, and it makes but little difference how soon liquor wipes them out. But the hunt for boys is at an end. The ghastly mills into whose hoppers boys and girls were turned by the thousands, grinding out daily a doleful grist of prostitutes, thieves, gamblers and paupers, are stopped forever. The law can be and is being evaded to the extent of finishing up the stock on hand, but the supply of new material is cut off. The open saloon is gone, and the coming generation is safe. When the seller dare not sell to boys the liquor business has a very short life.

This prohibition has done for Kansas and Iowa, as well as for Maine.—*North American Review.*

Editorial.

WHAT IS A CELL, AND WHAT IS CELL LIFE?

We believe the following is a tolerably correct statement of the generally accepted theory of the character of a cell and cell life. We have tried to so present the subject as to bring it within the comprehension of every reader; but it has been difficult to give even an intelligent outline in a short article, and to find familiar terms.

Allow us also to premise: There is a change of views taking place with regard to primary forms of animal and vegetable tissue; or at least we may say, there are some close observers among our physiological investigators who do not like the term cell, nor the doctrine taught by it. We should be pleased for some one of these to give us his views, but as plainly as he can find English words to convey them.

A cell is an organized unit of physiological life. It is at first, and sometimes continuously, a minute protoplasmic mass,—that is, a first tiny form of living substance. This protoplasm, which in the beginning may *appear* as a mere unorganized mass, generally has in time (and that time often very short), a nucleus, a wall, and a definite function, thus constituting a cell.

The cells of the vegetable and the animal kingdoms are somewhat alike; but a vegetable cell is more distinct in its parts, and remains active much longer.

The fibrous sac, or cell-wall of the vegetable cell, is generally perfect; its soft jelly-like protoplasm is clear, and its nucleus well marked. Within the wall are cavities filled with sap; or rather perhaps, in these cells the surcharged fluid brought from the earth, as it passes through them, is refined, changed, digested, and a portion assimilated into wood-fiber. The circulation of the sap corresponds to the blood of animals. Other vegetable cells are respiratory organs, receiving through the leaf those elements essential to these changes, and giving off waste gases, thus acting as the lungs in animals.

The cell wall, both in animals and vegetables, is not always present, specially in its early life, but is gradually formed from the protoplasm.

Many scientists prefer to speak of these primary organic centers as protoplasms, and not as cells; because, specially in animals, many cells are hardly more than minute masses of nucleated protoplasmic substance. Even the nucleus is not always distinct. The main thing to keep in mind is that a cell, as now understood, is “a mass of protoplasm capable of manifesting all the phenomena of life.” But, though sometimes without walls and distinct nucleus, we must consider them in their entirety of protoplasm, nucleus, and wall, for so they are generally found.

In the vegetable, as the cell matures, it becomes filled with starch, as the result of the summer's activity. In the spring, as the sap ascends, this starch is converted into sugar, and this into wood and leaves. As the cells grow old, new cells are formed on the outer edge of the old, which in turn become the sap cells of the "sap wood," the old becoming an integral part of the "heart wood;" then there is hardly more left of them than their limiting walls and those subdividing tissues of net work which form the honey-comb structure within them.

In many of the animal cells, as they mature the protoplasm gradually loses much of its fluidity, translucency, and distinct character, *as the contents of the cell*, and becomes mainly their envelop, the interior space being filled with that for which they were specially intended. Some become store-houses of fat, so that they are converted into oil vesicles; others keep in reserve bright refracting granules of substances adapted to the various tissues of the body; others hold waste matter, etc. Thus we have a variety of cells characterized according to the nature of their contents. But all these deposits are temporary, to be given off as wanted, or excreted to purify the system. There is one portion which is not discharged—this is the pigment; its character gives the tissues their respective colors. In the cells of the nerve layer of the eye back of the retina, for instance, the color is black by being filled with granules of carbon, remarkable for their ability to absorb light, and to carry the impression thus received to the brain.

We spoke of primitive cells being units of organization, centers of life formation; they are really the beginning of living bodies, both of animal and vegetable. With animals such a cell is called an egg, if it is thrown off after being impregnated and perfected, or an ovum, if matured into a living body within the parent.

In some instances, as we have stated, this ovum remains a single cell, maturing and living its lifetime as a unicellular organism—a one-celled animal. Most cells change their character during development, and multiply their species, and so varying their molecular character as to produce modifications of cells, specially adapted to produce and maintain the various tissues of the matured body. These changes are seen, not only in the maturing of the impregnated ovum, as it produces embryonic life, but also during the growth, maturity, and lifetime of the produced body. Thus in the blood, from its mixt and immatured state in the mesentery to its perfected character in the arteries, the parent cells of the blood are propagating new cells, as they pass on with their fluid, and constitute a chief part. These so differ in character as to be each specially adapted to specific structures of which they are destined to become the embodiment. Moreover,

though, as constituting a part of the blood, they seem to be in confused variety, they each have the instinct to choose the tissue for which they are destined and adapted, and, on arriving, to arrange themselves in it in the exact position, relation, and proportion to constitute its perfect whole.

When we consider the delicate character of protoplasms constituting primitive organisms, it seems almost incredible that all the vessels, tissues, and organs of the body are made by placing minute molecules side by side in various modifications and relations. For a moment let us consider further the primitive or germ cells.

We have said, in the lowest animal forms the whole individual is composed of a single cell, which remains unchanged through the life of the organism. But above these unicellular organisms the germ groups, and this multiple group gradually arranges itself by the cells working toward the surface into two distinct layers, with a cavity in the center. This may be considered as a sack of cells; it constitutes the entirety of the animal form and function.

Above these entities of animal life, in which a single group of cells constitutes the whole body, are animals in which we find more than one grouping of cells, and each group differing in character, both as the individual cells and as the conglomerate mass. Each of these groups work for a specific purpose, having distinct organization and function, and a definite destiny to fulfil.

Thus we come to the origin of distinct tissues and organs,—a complexity of organization which carries us farther and farther from the simple cellular life of the vegetable, and the unicellular animal.

But though we have here digestion and respiration, and distinct organs and tissues, we have to ascend into the vertebrates to find the full display of animal organization, function, and life; and we must come to *man* to discover all this in its perfection. In these vertebrates, from the very first activities of the impregnated ovum, is a tendency to divide, and for each division to become distinct entities of primitive cell-life, and for these to group for the formation of specific parts.

This conglomerate grouping of the primitive cells for the formation of distinct tissues is interesting. Between the outer and inner layer of cells, spoken of as formed in the lower order of animals, is here found a third, which forms between the other two, and which is divided from both the outer and inner layer, and distinct from both. From these three layers of primitive grouping of cells, we have the three varieties of tissues,—the cellular, the nervous, and the muscular, so that from these come all the tissues and organs of the highest order of physical existence.

TECHNICAL TRAINING.

Dr. Crouse, of Chicago, read an interesting essay before the late American Dental Association on the kindergarten and general manual training. Dr. Guilford criticized the paper as too elementary for such a learned body. We have not read the essay in full, but from the report received we are inclined to commend it, and to wish there were more such elementary papers read before scientific bodies.

Many of us were so "highly" educated that we have forgotten most of our elementary lessons,—if we ever learned them,—and we are much the worse for our ignorance.

A revolution is taking place in the qualifications demanded in our educators, and in their modes of teaching, and in the character of what we call education, both elementary and scientific. Many a professor of our conservative popular schools, who now proudly buttons up his coat, and speaks pompously of his scientific knowledge, will soon meet from our kindergartens of higher grades,—our technical schools,—mere youths with practical attainments that shall put him to the blush.

We have now few real philosophers, or scientists, in or out of our schools; for our present and past system, and our present and past standard of education, is hardly more than memorizing from the beginning of our infant schools to the end of the college course. Thus, we have been memorizing from each other, parrot like, what we have heard, but what we do not digest. Much of it we have been able neither to understand, demonstrate, or practice, and yet assume and teach to be facts. We have not *learned* what we know; we have only memorized it; and what we have after a fashion digested, we have not demonstrated by skilful manipulation. Theory, theory, theory, is the great rage, and has been for centuries. But, thanks to a few determined reformers, there is now arising a generation of *doers*. Their motto is: *Few things are valuable that can not be reduced to practical use, and few things of practical use are of great value till a cultivated mind and skilled hands have made it a personal possession.*

This is the reason kindergartens and technical schools are so rapidly springing up all over the land, and that even in our common schools attention is being drawn to the same direction.

All our faculties must be educated, as well as our memory; and our muscles to the tips of our fingers, as well as our brain.

This has not been aimed at heretofore, and this is the reason we have had so many "scientific" men going about the country on high stilts,—an exhibition of learned somethings too mysterious for ordinary mortals to understand, and too impractical to be of use. Knock these stilts from under them, and they are about as helpless as any animals

on the face of the earth. They immediately find it necessary to imitate the unfaithful, helpless steward in the Scriptures.

A NATIONAL DENTAL MUSEUM.

Would it not be well to have one? And where would be a better place than at Washington? And would not this call for the annual gathering there of our chief association?

At almost every meeting of dentists for discussion and investigation, a Dental Museum would be a great help. We have now a few limited dental collections, but it is a shame so little effort has been made to produce a collection of materials and apparatus worthy of our growing profession.

To have our American and our Southern associations meet in different localities each year is a novelty to some who attend, but there are so many advantages in a settled place of meeting, that it is singular they should both meander so long. Chief among the advantages of a settled habitation is a complete museum of dental books, specimens, and apparatus; and we suggest Washington as the place because there we should find the largest museum in this country at our service, and we could have with but little cost a government apartment for any additional collections of our own.

It might necessitate the consolidation of the Southern and the American Associations, but would this be a calamity? Would it not be a real good?

MANIPULATING OXYPHOSPHATE.

"In any cavity, phosphate of zinc filling can be put in and forced in hard and solid, and burnished somewhat and left with a smooth surface. It is the best filling that can be used. They will last sometimes four or five years."—Dr. W. J. BARTON, Texas.

If oxyphosphate is mixt with dexterity and speed and thoroughly packed *very quickly* it will do to mix it quite stiff, but many stiff mixings are failures, either because not evenly mixt, or because not put in the cavity with sufficient speed and skill. All burnishing of these fillings must be done before they set or the pressure makes them crumbly and worthless. Therefore, for nearly every manipulator, it will be found better to mix only moderately stiff; and if the cavity is large or difficult to get at, it should be quite soft, and, if necessary, two mixings should be resorted to. All burnishing of the surface should *immediately* follow the filling, and generally, no burnishing should be undertaken. Some years since, when we were experimenting with its manufacture, we spoiled many fillings with wrong manipulating that we supposed was defect in the make.

An Instance of the Cocaine Habit.—There is at present considerable excitement in the United States regarding the excessive use of cocaine. Some patients to whom it is prescribed appear to use enormous quantities of it. For example, Dr. J. E. Clark, Professor of Chemistry, Detroit College of Medicine, mentions (says the *Chemist and Druggist*) a young man for whom he prescribed an 8 grs. to the oz. solution of cocaine hydrochloride for hay fever. This acted like a charm, and he heard no more of the case, till one day he was in a pharmacy, and was asked by the proprietor, "Do you know Mr. — is using about eight dollars' worth of cocaine a week?" The young man liked the cocaine so much that he had gone on till he had become temporarily insane, had to retire from his business, and be under strict supervision till the craving disappeared, a space of about three months.

CAN DOCTORS PRACTICE DENTISTRY?

"A case involving this point recently came up in this city, and was decided in the affirmative. A Dr. Bradford was charged with illegally practicing dentistry. He showed that he was a legal physician, and the case was dismissed."—*Medical Record*.

And how about dentists practicing medicine? Certainly dentists are as qualified to practice medicine as physicians are to practice dentistry. The fact is, both employments require special qualifications; they are not interchangeable. They are so diverse and so extensive in their diversity that they are distinct callings. Both being professions of the healing art, they have many interests and sympathies in common, and there should be therefore genuine fraternity. But there is not unity. There is such diversity in study, skill and practice that one is lost in the other's field, and it is folly for him to profess to be at home.

Extracting to Regulate.

—A writer of prominence says:
The extraction of certain teeth that the remaining ones may be benefited is a practice full of good or evil, according to the conditions under which it is done. Sometimes it results in great good, and at other times it is followed by very unfortunate results. Where the teeth of the child are large and crowding, with a tendency to decay on their proximal surfaces, the removal of a tooth or two back in the mouth will be attended with happy results; but where the opposite condition prevails such extraction, with the tendency of the teeth to separate, lessens the mutual support of adjacent teeth, and often causes unsightly spaces between the anterior teeth. The best of judgment is necessary in deciding when and when not to so operate.

These cautions against extracting are good, but we would go still farther. Even "where the teeth of the child are large and crowding," "the removal of a tooth or two back in the mouth" will seldom "be attended with happy results," because the almost universal tendency of teeth are to move forward, not backward, when open space

is made by extraction; therefore even in this trouble, extracting should be resorted to with great caution. You may think you can, after extraction of back teeth, force the front teeth back; and, after much and painful labor, you may, but they will generally resume their previous position. A spreading of the teeth and the alveolus, so as to increase the size of the whole arch, and at the same time, if necessary, drawing the front teeth in, will usually be found the better and more permanent remedy. To extract to favor a contracted arch is to increase the trouble.

We thank our friends for their liberal patronage of the ITEMS. It is now a familiar visitor to most dental offices in the United States and Canada. Our subscription list is a surprise to ourselves. We have so nearly reached five thousand subscribers, it would please us much to complete that number before revising our mail list for 1888. Friends, the dollar is a trifle to you, but the many sent in are very encouraging to us. That we may make our list five thousand strong, we send, this month, sample copies to some not subscribers. It would be gratifying to have them respond with their dollar. We can assure them they shall have their dollar's worth. Subscribers received now will receive November and December ITEMS free.

"Does Oxyphosphate Injure Teeth?"—In September ITEMS we attributed to Dr. C. L. Hungerford the remark that, "It is claimed by some that its use will entirely destroy the integrity of the tooth bone, and devitalize pulps, even when used in the smallest cavities." This should have been attributed to Dr. Wm. Conrad, of St. Louis.

The following is the new Dental Examining Board of Florida:—T. A. Lee, of Pensacola; W. H. Shine, of Tallahassee; W. L. Seigler, of Gainesville; J. N. Jones, of Jacksonville; Duff Post, of Tampa.

The Compliments to Prof. C. L. Ford, of the University of Michigan. We referred to this pleasant and creditable affair in September ITEMS as the offering of the medical students of that institution. Dr. J. F. Raymond, a dental graduate at the time, writes us that the Dental Department did its part. This still farther adds to the honors of the gifted anatomist. We should have credited the article to the Southern California *Practitioner*.

The Southern Dental Association was a success, as most of its sessions have been. For talented experienced speakers and skilful instructive operators perhaps this was their best meeting. We hope to give our readers much profitable reading from its proceedings.

The International Congress.—This was a great and profitable meeting. The Dental Section was also well attended and extremely interesting throughout its sessions. We think all who attended will not regret the money and time spent. If there was any fault it was in attempting too much—somewhat as we find ourselves tempted at “a feast of fat things.” But everything was so well prepared, and the program so well carried out, there was little cause of complaint. Our readers shall have the benefit of its deliberations.

Practical Treatise on Mechanical Dentistry, by Joseph Richardson, M. D., D. D. S. Fourth edition, revised and enlarged. P. Blakiston Son & Co., Philadelphia. This fourth edition is a great improvement on previous issues. Of course there is still much retained that the intelligent dentists would consider obsolete, but there is much added to bring prosthetic dentistry up to the most approved practice. Dr. Richardson has 125 pages devoted to crowning roots, and 75 pages to bridge work. In his instructions for making partial and full sets of teeth on various metals and on rubber, he has given not only his own practice, but the suggestions and practices of many others. It is a standard work that should be in the library of every dentist, and that should be used as a text book by every dental student.

Royal College of Dental Surgeons of Ontario purposes to extend its sessions to five months, and to graduate none under two full terms, so as to be on equal terms with American colleges. This will be equally pleasing to the profession in Canada and in the United States. Some of the faculty are in favor of a three years' course, instead of two. We think this would be folly. If students are prepared on entering to pass a creditable preliminary examination in general studies, and in the theory and practice of dentistry as acquired in a preliminary office practice, two terms should be an abundance to prepare them to enter the dental profession with credit.

The Texas Dental Association Proceedings is received. It shows energy and progress for the profession in that State. We shall be pleased to spread much of its contents before our readers.

OFFICERS OF THE CALIFORNIA STATE DENTAL ASSOCIATION.

W. F. Griswold, President; W. DeCrow, Vice-President; W. A. Knowles, D. D. S., Secretary; W. Z. King, Corresponding Secretary; S. E. Knowles, D. D. S., Treasurer; T. N. Iglehart, Librarian. Next meeting to be held in San Francisco, third Tuesday in July, 1888.

1001 Valencia street.

W. Z. KING, Cor. Secretary.

Miscellaneous.

WHAT MAY BE ACCOMPLISHED BY ENERGY AND PERSEVERANCE.

Col. H. W. Pinckney, in *Dixie*, a newspaper published at Atlanta, Georgia, relates the following incidents, which came under the writer's own observation, where success trod closely on the heel of perseverance and industry:

A man can make a living, and also make money, in hundreds of different ways in this country, and it is a mighty good thing that this is so, else over-production would be the rule, not the exception. I know a man who is getting rich out of baby swings. It's a simple, cheap thing to make, and he started in a simple and cheap way to make them, his entire outfit of tools comprising two saws, two saw benches, a draw shave, two hand planes, a brace and some bits, a rough work bench. He didn't stand around with hands in his pockets waiting for somebody with capital to come along and boost him. Not much. He thought these swings would sell, so he made one and peddled it round until he found a purchaser. Then he made another and sold that, and thus he kept on until finally people began to think his swings were a good thing to have in the family, and they began to inquire for them. He started eight years ago, and alone did all the work of making and selling them. Things with him are very different to-day. He has a shop two stories in height, and machinery for sawing, planing, boring, mortising, turning, and sandpapering the material entering into the construction of these swings. In that shop forty men find constant employment, and, as I said before, the owner is getting rich out of it. Counting the wives and children of the workmen in that shop, there is a population of nearly or quite one hundred and fifty making a living out of one man's idea that a baby swing would sell. A baby swing is not a very big thing, but it is in this case big enough to keep quite a little village busy and comfortable.

A step ladder is a mighty handy thing to have around the house. Five years ago three men, by the closest kind of scraping, twisting, and borrowing, managed to get together five hundred dollars. They bought some lumber, rigged up a circular, or buzz rip saw, and started in to make step ladders. For two years it was a struggle of the hardest kind; sales had to be made by personal canvass; prices obtained permitted no margin of profit, and the outlook was of such a discouraging nature that their friends and neighbors pitied them first, then prophesied dead failure, and finally laughed at their folly in sticking by a losing game. There came a change, however. A prominent house-furnishing goods firm one day wrote them for prices on five thousand ladders. The size of this possible order very nearly took them off their feet. They had sense enough, however, to understand that this big house would not give them the order unless prices were made away down, so they sat down and figured the thing over, and having decided that matter, awaited the result, which turned in their favor and they got the order. Then they went to work; each one took his coat off and pitched in; they worked sixteen hours a day until that order was filled,

and it was filled on time, and each ladder was honestly made. The only expense they realized was for lumber, screws, and paint. They had done all the work themselves. This was the turning point in their business career. Within a month from the delivery of these five thousand ladders they had contracted with the same house for a monthly supply of two thousand five hundred. They were on their feet now, and began to push things. They are turning out to-day, with fifteen men, ten thousand step ladders each month, and have been doing this for more than a year. A step ladder is a little thing, but these men are making money out of them.

About fifteen years ago, in one of the big planing mills in Chicago, a strip of board catching in some unaccountable manner in a buzz saw, was hurled with violence against the leg of one of the workmen, breaking it and badly mangling the flesh. The injury resulted in incapacitating the man for performing the labor required of him in the mill, and he was compelled to seek other means of livelihood. A man of fine mechanical attainments, his endeavors very naturally sought outlet in that direction, so he built, after his own ideas, a scroll or fret saw, foot power, and rigged up a seat on it, as he was unable to stand for any length of time, and began sawing out and putting together articles for household ornament and utility. He regarded this as simply a temporary means of making a living. After a time he added to his scroll saw a light boring attachment and then a little turning lathe. Then he bought a cheap set of carver's tools. You see he was always looking out to save labor and to combine originality in the articles he turned out. Time ran along, and almost before he knew it, he was getting more orders than he could, alone, fill. So he hired a man to dress and prepare his materials, lay out the patterns, and put the articles together. Still his orders increased, and he hired another, and still another man. To-day he has thirty men in his employment, and he does no physical labor himself. Making money? Yes, right along, but it was a very little thing that gave him his start.

Now, the point I wish to make is this: Capital in large amounts is not necessary in the founding of industrial enterprises. A good deal of pluck and energy and unconquerable perseverance are better than money, because, having these, money becomes the result, not the means, of success. Money is valuable, not as the means by which an end may be accomplished, but rather because it is the result of an accomplished end. It has power, immense power, but without energy behind it, it is powerless. Perseverance and energy can make money, but money cannot make perseverance and energy. I would rather see a dozen shops employing three men each, than one shop employing three dozen men. There is more money in the three dozen, because there is greater possibility for their expansion and growth. Don't wait for the establishment of big enterprises with heavy capital, but start little ones in a modest way, and then let them grow, as the majority of them surely will.

To Remove Oil Stains from marble statuary. Make a paste with fuller's earth and hot water, cover the spots therewith, let it dry on, and the next day scour it off with soft or yellow soap.

REGULATION OF LIQUOR TRAFFIC.

The *Textile Record* says: Journals conducted in the interests of the rum sellers deny the right of any one to interfere with a man who wishes to buy and to drink any beverage that he desires. This sounds like a defense of personal liberty, but it is mere nonsense.

1. No man has any right to carry on a business which produces results for which other men must pay heavily. The taxes of every citizen are more than doubled by the evils which flow directly from the rum traffic. The rum sellers wax fat, and the mass of tax payers pay millions of dollars every year that they may have the privilege of doing so.

2. No man has any right to carry on a business which corrupts the morals of other men. Nine-tenths of the crime in this country springs directly from the rum traffic. It corrupts the young, debauches the old, destroys families, cripples workmen, makes politics vicious, defies the Sunday laws, wastes the people's substance, injures trade, and produces pauperism, theft, murder, and insanity. If society has no right to meddle with such a monstrous public nuisance as this, then it has not the ordinary right of self-preservation.

A SIMPLE CURE FOR RHEUMATISM.

A correspondent of the *English Mechanic* says: Let all of "ours" know the following. My wife has suffered occasionally with acute rheumatism in her feet, with painful swelling, completely taking her off her feet for many days at a time.

The following remedy was recommended recently and tried, and took away the agonizing pain in less than fifteen minutes, and she can now walk very fairly, and in a couple of days she will be able to button her boots, and walk without a stick or crutch:

One quart of milk, quite hot, into which stir one ounce of alum; this makes curds and whey. Bathe the part affected with the whey until too cold. In the meantime keep the curds hot, and after bathing put them on as a poultice, wrap in flannel, and—go to sleep (you can). Three applications should be a perfect cure, even in aggravated cases.

Cough Indications.—A strong and sonorous cough suggests spasmodic croup. A hoarse and rough cough is an indication of true croup. When the cough is clear and distinct there is bronchitis. When it is suppressed and painful there is pneumonia and pleurisy. If the cough is convulsive it indicates whooping cough.

A Method of Tempering.—S. P. Davis in *Scientific American* says that a drill heated to cherry red and driven into a cold bar of lead will be much harder than when tempered by the acid bath. It is said that instruments thus treated can successfully be used for boring into the hardest steel and plate glass.

Clear Shellac Varnish.—This may be prepared by making an alcoholic solution of shellac in the usual way, then adding a little benzole and shaking the mixture. In the course of a day or two the fluid will have separated into two distinct layers, the upper alcoholic stratum being perfectly clear, which may be decanted or drawn off with a pipette.—*National Druggist*.

The Coroner's autopsy on the body of young Russell H. Knevals, who was found dead in his bed on Sunday, made this morning, at the residence of his father, 62 East Fifty-eighth street, established the fact that he had suffered from what is known as smoker's heart disease, due to the excessive use of cigarettes, testimony going to show that he had been in the habit of smoking as many as three packages a day. Congestion of the brain was also disclosed, but death was directly due to coma.

Castor Oil is highly recommended for softening and preserving shoes. Applied at night about once a month, it allows polishing in the usual way the next morning, and keeps the leather in good condition. One who has tried it for years says his shoes last nearly twice as long since he began the practice, and they receive a higher polish.

To Cut Glass.—The way in which glass may best be cut with scissors is told in the *Pottery Gazette*, London: "Glass may be cut under water with great ease, to almost any shape, with a pair of shears or strong scissors. Two things are necessary for success. First, the glass must be kept quite level in the water while the scissors are applied; and secondly, to avoid risk, it is better to perform the cutting by taking off small pieces at the corners and along the edges, and to reduce the shape gradually to that required. The softer glasses cut the best, and the scissors need not be very sharp."

Polish Suitable for Polishing Pianos.—A fine varnish is made as follows: Take 700 parts of alcohol, 15 parts of copal, 7 parts of gum arabic and 30 parts of shellac. The resins are first pulverized and bolted through a piece of muslin. The powder is placed in a flask, the alcohol poured over it, and the flask corked. By putting the flask in a moderately warm place, the solution will be accomplished in two or three days. It is then strained through a piece of muslin, and kept in hermetically sealed bottles. 2. A preparation for whitening ivory. Use hydrogen peroxide. See article on this subject in *Scientific American Supplement*, No. 339.

Printed matter may be copied on any paper of an absorbent nature by dampening the surface with a weak solution of acetate of iron, and pressing in an ordinary copying press. Old writing may also be copied on unsized paper, if wet with a weak solution of sulphate of iron mixt with a simple solution of sugar syrup.

Cut flowers may be preserved fresh, it is said, for a long time in the following manner: Get a glass shade and place it on a non-porous vessel to form a stand; put water round the bottom to keep the shade air-tight, then procure fresh cut blossoms, put them in water immediately, drop into the water in which the flowers are placed a small quantity of spirits of chloroform, and place the shade over the mat at once. The flowers thus treated, some writer says, will keep fresh for a month, but one should hardly expect they would be in a very fresh condition after their four weeks' confinement, but the new preserving process is worth trying. Care should be taken to have all in readiness. As soon as the chloroform is put in, place the shade over them, and water always kept round the bottom. A large soup plate would do for this.